

CLAIMS:

1. A negative liquid electrographic toner composition comprising:

- a) a liquid carrier having a Kauri-Butanol number less than about 30 mL;
- 5 b) a plurality of negatively charged toner particles dispersed in the liquid carrier, wherein the toner particles comprise a polymeric binder comprising at least one amphipathic graft copolymer comprising one or more S material portions and one or more D material portions; and
- c) a charge control adjuvant that is an acid or a base.

10 2. The toner composition of claim 1, wherein the charge control adjuvant comprises a base selected from primary amines, secondary amines and tertiary amines.

15 3. The toner composition of claim 1, wherein the charge control adjuvant comprises a base selected from the group consisting of alkyl amines and amino-functional polymers.

4. The toner composition of claim 1, wherein the charge control adjuvant comprises a base selected from alkyl amines having 12 to 18 carbon atoms in the alkyl portions of the alkyl group.

20 5. The toner composition of claim 1, wherein the charge control adjuvant comprises a base selected from hexylamine, octylamine, dodecylamine, tetradecylamine, hexadecylamine, octadecylamine and mixtures thereof.

25 6. The toner composition of claim 1, wherein the charge control adjuvant comprises an acid selected from sulfonic acids and carboxylic acids.

30 7. The toner composition of claim 1, wherein the charge control adjuvant comprises an acid selected from alkyl benzene sulfonic acids, alkyl carboxylic acids and acid functional polymers.

8. The toner composition of claim 1, wherein the charge control adjuvant comprises an acid selected from alkyl benzene sulfonic acids and alkyl carboxylic acids having 12 to 18 carbon atoms in the alkyl portions of the alkyl group.

5 9. The toner composition of claim 1, wherein the charge control adjuvant comprises an acid selected from hexanoic acid, octanoic acid, dodecanoic acid, tetradecanoic acid, hexadecanoic acid, octadecanoic acid, hexyl benzene sulfonic acid, octyl benzene sulfonic acid, dodecyl benzene sulfonic acid, tetradecyl benzene sulfonic acid, hexadecyl benzene sulfonic acid, octadecyl benzene sulfonic acid and mixtures thereof.

10 10. The toner composition of claim 1, wherein the charge control adjuvant is capable of forming micelles in the liquid carrier.

11. The toner composition of claim 10, wherein the charge control adjuvant is the
15 present in the composition in the form of micelles having a size range of from about 5 to about 50 nm.

12. The toner composition of claim 1, wherein the charge control adjuvant has a solubility of about 0.1 to about 10 mg/g in the liquid carrier.

20 13. The toner composition of claim 1, wherein the charge control adjuvant is present in the toner composition at a concentration of from about 0.5 mg/g to about 5 mg/g in the liquid carrier.

25 14. The toner composition of claim 1, wherein the charge control adjuvant is present in the toner composition in an amount higher than the solubility of the charge control adjuvant in the liquid carrier.

30 15. The toner composition of claim 1, wherein the negatively charged toner particles comprise a charge director component selected from oil-soluble petroleum sulfonates, polybutylene succinimides, and glyceride salts.

16. The toner composition of claim 1, wherein the negatively charged toner particles comprise a charge director component selected from lecithin and basic barium petronate.

5 17. The toner composition of claim 1, wherein the negatively charged toner particles comprise at least one visual enhancement additive.

18. The toner composition of claim 17, wherein the one visual enhancement additive is a pigment.

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19. The toner composition of claim 1, wherein the binder has a T_g greater than about 30°C.

20. The toner composition of claim 1, wherein the binder has a T_g less than about 30°C.

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